

ABSTRACT OF THE DISCLOSURE

Compositions, and products comprising a MutS homolog which binds to a mismatched region of a duplex DNA molecule in the presence of ADP are provided, as are
5 methods of binding MutS homologs to mismatched DNA in the presence of ADP. The use of MutL homolog derivatives in combination with MutS homologs is also included. Nonhuman mammals which are nullizygous for both Msh2 and p53 are also provided, as are methods of making and using the same.